

Consonant-Tone Interaction as Agreement by Correspondence

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Consonant and tone interaction has been a challenge for standard theories of tone because tone association is typically restricted to vowels or prosodic nodes as tone-bearing units (TBU; Yip 2002). Onset consonants that interact with tone exist outside the TBU, and forcing the interaction of these consonants with tone requires direct reference to segmental features (e.g., [laryngeal] or [voice]; Bradshaw 1999; Downing 2001; Lee 2008; a.o.). In this paper, I argue that a single dimension—sonority—underlies the relationship between segments and tone and that consonant-tone interaction can be modeled using the similarity-based theory of Agreement by Correspondence (ABC; Hansson 2001; Rose and Walker 2004) as tonal disagreement between segments that lack sufficient similarity in sonority.

In an ABC analysis of tone, segments that are similar in sonority strive to become more similar by also agreeing in tonal specification (IDENT-XX {*x* sonority} » MAX-XX » IDENT-XX (T) » IDENT-IO (T); following McCarthy’s implementation of ABC without CORR (2010)). Because vowels and sonorant consonants are more similar in sonority, they are more likely to agree in tone cross-linguistically than vowels and obstruents. Common consonant-tone interaction behavior, such as depressor effects (Bradshaw 1999; Lee 2008; Tang 2008; a.o.), emerges when IDENT-XX {*x* sonority} targets a contiguous range of the sonority hierarchy that includes obstruents, thereby forcing them to correspond with sonorants. In such cases, a markedness constraint that outranks the constraint requiring tonal agreement on corresponding segments (e.g., *T/OBSTR » IDENT-XX (T)) will cause opaque consonant-tone interaction, including typical depressor phenomena such as the blocking of H tone spread or the insertion of L tone (following Hansson 2007 and Rhodes, in prep, on opacity in ABC).

Using stringent sonority hierarchy constraints (de Lacy 2004), ABC predicts that more sonorous segments will never block tonal harmony when less sonorous segments in the same system will allow it. This paper provides evidence from Dioula d’Odienné (Braconnier 1982; Braconnier and Diaby 1982) that this implication holds true. In Dioula, sonorant consonants can pattern like obstruents in inhibiting tone spread. Furthermore, a subcategorical, gradient effect exists amongst the sonorants. Segments that are more sonorous (liquids: /l, r/) are more likely to allow right-to-left H tone spread before a H tone (1), while those that are less sonorous (nasals: /m, n, ŋ/) are more likely to block H tone spread, limiting H tone docking to the final syllable (2).

		before H	
(1)	hèrà	hérá	‘peace, happiness’
(2)	dágbànàn	dágbà^{án}	‘stuttering’

The gradient patterning of Dioula sonorant consonants illustrates the intuition behind the ABC analysis presented here: more sonorous segments are more likely to transmit pitch and agree in tone, and conversely, less sonorous segments are more likely to inhibit tone agreement.

ABC, unlike previous approaches to tone based on TBUs, such as autosegmental theory, places no a priori restrictions on which segments may enter into corresponding relationships, making it a natural framework for capturing the sonority basis to consonant-tone interaction. Although originally developed for long distance consonant agreement (Hansson 2001; Rose and Walker 2004), ABC has since been extended to vowel harmony (Rhodes, in prep), and its extension in this paper to tonal phenomena addresses the debate of whether ABC and autosegmental feature spreading are concurrently necessary in our theoretic arsenal (Gallagher 2008).